

## C L A I M S

1. Reversible spray head for spray guns, including a reversible element placed in a central body and through which there is a channel with a spray hole at one end and a watertight joint between the rotating element and the gun onto which the central body is fixed, characterised by the fact that the channel (9, 32) of the reversible element has a spray hole at each end.

2. Spray head according to claim 1 characterised by the spray holes placed at each end of the channel (9, 32) including two spray inserts (10, 11) placed opposite each other and a watertight joint (12) placed between the two inserts, the unit formed by the two opposite inserts and the joint abutting a stop (14) at one end of the channel, on the one hand, and being placed under tension

by a shrink ring (15) screwed to the other end of the channel, on the other.

3. Spray head according to claim 2, characterised by the fact that the two opposite inserts (10, 11) are aligned with each other by means of an internal metal tube (13).

4. Spray head according to sub-claim 2, characterised by the fact that the inserts (10, 11) forming the spray holes are made from tungsten carbide and are V-shaped, so as to obtain different spray angles and different flows.

5. Spray head according to sub-claim 2, characterised by the fact that the joint (12) placed between the two opposite inserts (10, 11) is in PTFE Teflon or polyamide.

6. Spray head according to claims 1 to 2, characterised by the fact that the spray holes or the inserts (10, 11) are cut in such a way as to have a spray angle of 30 to 120° at one end of the channel while at the other end of the channel, the spray angle will be from 5 to 25°.

7. Spray head according to claims 1 to 2, characterised by the fact that the reversible element in which the channel containing the two spray holes is placed is a cylindrical shaped key (20) passing through the central body of the spray head (1), a 180° rotation of the key allowing to change from one spray hole to the other.

8. Spray head according to claims 1 to 2, characterised by the fact that the reversible element in which the channel containing the two spray holes is placed is a key (30) which has a sphere in the centre (8, 31) inserted into the central body of the head, the channel (9, 32) passing through the middle of the sphere, a 180° rotation of the key allowing one to change from one spray hole to the other.

9. Spray head according to claims 1 to 2, characterised by the fact that the reversible element includes a support component (51) with a conical front part (52), into which an internal component is screwed (54) with a back part (52) also

conical, the angle of the cones (52) of the front and rear parts (51, 54) of the element being the same, the two parts enclosing a unit formed by two opposite inserts (10, 11) separated by a joint (12).

10. Spray head according to claim 9, characterised by the fact that the two inserts (10, 11) are aligned with each other by means of an internal metal tube (13).

11. Spray head according to claim 9, characterised by the fact that the two components with a tapered front and back part (51, 54) are made out of metal and screw-glued one inside the other.

12. Spray head according to claim 2, characterised by the fact that the top part of the head (60) has two projections (62, 63) on the outer edge of the head and face to face on top of the upper surface of the head, the projections (62, 63) having oblong holes (66, 67) making it possible to direct a supply of additional air coming from the gun through channels (68, 69) passing through the head, the oblong holes

(66, 67) being arranged to atomise the main high pressure jet coming from the central nozzle of the insert (10, 11).

13. Spray head according to claims 8 and 12, characterised by the fact that the oblong holes (66, 67) are arranged to direct conditioned air onto the ball (31) which protrudes two to five millimetres from the upper surface of the head.

14. Spray head according to claim 1 or 2, characterised by the fact that the top part of the head (60) has four additional air nozzles (70, 71, 72, and 73) placed either side of the main oblong hole of the insert (10), the nozzles (70 to 73) being connected to channels supplying additional air (74 and 75) in turn connected to a annular chamber (76) supplied with air by the gun in such a way that a pressure variation of the air coming out of the nozzles (70 to 73) makes it possible to strike the main high pressure beam coming out of the insert (10 or 11 respectively), and close the said beam according to the increase in pressure of the additional air coming out of the gun.

15. Spray head according to claim 14, characterised by the fact that the nozzles (70 to 73) and the channels (74, 75) are arranged in such a way as to allow one to change the beam coming from the insert (10) from an angle of  $90^{\circ}$  to  $120^{\circ}$  to an angle of  $30^{\circ}$ .
16. Spray head according to claim 14, characterised by the fact that the nozzles (70 to 73) and channels (74 to 75) are arranged in such a way as to make it possible to change the beam coming from the insert (11) from an angle of  $25^{\circ}$  to an angle of  $5^{\circ}$ .